

CLAIMS

What is claimed is:

- 1 1. A watercraft lifting apparatus, comprising:
 - 2 a buoyant support apparatus having a support frame configured to be anchored
 - 3 with respect to a body of water and a floatable frame slidably mounted on the support
 - 4 frame; and
 - 5 a lift attached to the buoyant support apparatus, the lift comprising:
 - 6 a base;
 - 7 a first boom having a first end pivotally joined to said base to rotate about
 - 8 a first axis and a boom extension projecting from said first end thereof;
 - 9 a second boom having a first end pivotally joined to said base to rotate
 - 10 about a second axis;
 - 11 water craft supports pivotally connected to said booms; and
 - 12 an actuator pivotally connected to said boom extension to rotate about a
 - 13 third axis that is offset from the first axis and pivotally connected to said second
 - 14 boom between the first end thereof and a distal end.
- 1 2. The watercraft lifting apparatus recited in claim 1 wherein the third axis is parallel to
- 2 and offset away from the first end of the first boom and away from the first axis.
- 1 3. The watercraft lifting apparatus recited in claim 1 wherein the first boom is joined to
- 2 said base at a first pivot point positioned between the first end thereof and a distal end of
- 3 said boom extension, and said actuator is pivotally connected adjacent said distal end of
- 4 said boom extension.
- 1 4. The watercraft lifting apparatus recited in claim 3 wherein said first boom has a first
- 2 length and said second boom has a second length different from said first length.

1 5. The watercraft lifting apparatus recited in claim 4 wherein said second boom is
2 pivotally connected to said base at a second pivot point spaced a vertical distance below
3 said first pivot point.

1 6. The watercraft lifting apparatus recited in claim 5 wherein said second length is
2 essentially equal to said first length plus said vertical distance.

1 7. The watercraft lifting apparatus recited in claim 1 wherein said first boom includes
2 laterally opposed structural portions pivotally joined to said base and a hull-clearing
3 channel portion formed therebetween and projecting out of the plane of said laterally
4 opposed structural portions.

1 8. The watercraft lifting apparatus recited in claim 7 wherein said hull-clearing channel
2 portion is formed in a "V" shape.

1 9. A watercraft lifting apparatus comprising:

2 a buoyant support apparatus comprising a buoyant frame slidably mounted to a
3 fixed frame configured to be fixed to the floor of a body of water; and

4 a lift attached to the buoyant frame, the lift comprising:

5 a generally rectangular base having a longitudinal axis;

6 first and second pairs of booms, each of said first and second pairs of
7 booms having first ends and second opposite ends, said first ends pivotally
8 connected to said base at opposite ends of said longitudinal axis, said first boom
9 including a boom extension projecting from said boom adjacent said pivotal
10 connection to said base such that said pivotal connection to said base is positioned
11 between said second end of said first pair of booms and a distal end of said boom
12 extension;

13 watercraft supports pivotally connected to said second ends of said first
14 and second pairs of booms whereby a four-bar linkage is formed; and

15 an actuator pivotally connected between said first and second pairs of
16 booms and operable for rotating said first and second pairs of booms, a first end
17 of said actuator pivotally connected to said first pair of booms adjacent said distal
18 end of said boom extension and a second end of said actuator pivotally connected
19 to said second pair of booms adjacent said second end of said second pair of
20 booms, whereby said watercraft supports are moved from a first position adjacent
21 said base to a second position spaced away from said base.

1 10. The watercraft lifting apparatus recited in claim 9 wherein said first pair of booms
2 has a first length measured between said pivotal connection to said watercraft supports
3 and said pivotal connection to said base, and said second pair of booms has a second
4 length measured between said pivotal connection to said watercraft supports and said
5 pivotal connection to said base different from said first length.

1 11. The watercraft lifting apparatus recited in claim 10 wherein said pivotal
2 connection of said first pair of booms to said base defines a first pivot point and, said
3 second pair of booms is pivotally connected to said base at a second pivot point spaced a
4 vertical distance below said first pivot point.

1 12. The watercraft lifting apparatus recited in claim 11 wherein said second length is
2 essentially equal to said first length plus said vertical distance.

1 13. The watercraft lifting apparatus recited in claim 9 wherein said first pair of booms
2 further comprises:
3 laterally opposed structural portions pivotally joined to said base and said
4 watercraft supports; and
5 a shaped hull-clearing portion formed between said structural portions.

1 14. The watercraft lifting apparatus recited in claim 13 wherein said shaped hull-
2 clearing portion is formed in a "V" shape.

1 15. A watercraft lifting apparatus comprising:
2 a buoyant support apparatus; and
3 a lift attached to the buoyant support apparatus, the lift comprising:
4 a generally rectangular base formed of two longitudinal beams joined at
5 each end by first and second transverse beams;
6 a first pair of booms comprising first and second booms each having first
7 and second opposite ends,
8 a boom extension projecting from said first ends;
9 pivots adjacent said first ends for pivotally connecting said first and
10 second booms to a respective one of said longitudinal beams adjacent said first
11 transverse beam;
12 a second pair of booms having first and second opposite ends, said first
13 ends pivotally connected to a respective one of said longitudinal beams adjacent
14 to said second transverse beam;
15 a plurality of watercraft supports pivotally connected to said second ends
16 of said first and second pairs of booms; and
17 an actuator having a first end pivotally connected between said second
18 ends of said -second pair of booms and said base, and a second end pivotally
19 connected adjacent to a distal end of said boom extension, said actuator operable
20 for rotating said first and second pairs of booms.

1 16. The watercraft lifting apparatus recited in claim 15 wherein said first pair of
2 booms has a first length measured between said pivotal connection to said watercraft
3 supports and said pivotal connection to said longitudinal beams, and said second pair of
4 booms has a second length measured between said pivotal connection to said watercraft

5 supports and said pivotal connection to said longitudinal beams different from said first
6 length.

1 17. The watercraft lifting apparatus recited in claim 16 wherein said pivots pivotally
2 connecting said first pair of booms to said longitudinal beams define first pivot points
3 and, said pivotal connection of said second pair of booms to said longitudinal beams
4 define second pivot points spaced a vertical distance below said first pivot points.

1 18. The watercraft lifting apparatus recited in claim 17 wherein said second length is
2 essentially equal to said first length plus said vertical distance.

1 19. A watercraft lifting apparatus, comprising:
2 a pair of floats mounted to a support frame;
3 a plurality of support stands slidably mounted to the support frame and configured
4 for fixed attachment to the bed of a body of water; and
5 a lift attached to the support frame, the lift comprising:
6 a base;
7 a first boom having a first end pivotally joined to the base to rotate about a
8 first axis and a boom extension projecting from the first end thereof;
9 a second boom having a first end pivotally joined to the base to rotate
10 about a second axis;
11 watercraft supports pivotally connected to the booms; and
12 an actuator pivotally connected to the boom extension to move the first
13 boom, the second boom, and the water craft supports between a collapsed
14 configuration and an extended configuration that is over center with respect to the
15 collapsed configuration, the actuator configured to stop movement of the first
16 boom, the second boom, and the watercraft supports in the extended configuration
17 when the actuator reaches a maximum point of travel.

1 20. The watercraft lifting apparatus of claim 19, wherein the actuator is configured to
2 rotate about a third axis that is offset from the first axis and pivotally connected to the
3 second boom between the first end thereof and a distal end.

1 21. A watercraft lifting apparatus, comprising:
2 a buoyant support apparatus; and
3 a lift attached to the buoyant support apparatus, the lift comprising:
4 a base;
5 a first boom having a first end pivotally joined to the base to rotate about a
6 first axis;
7 a second boom having a first end pivotally joined to the base to rotate
8 about a second axis;
9 a watercraft support apparatus pivotally connected to a second end of the
10 first boom and a second end of the second boom; and
11 an actuator pivotally connected to the first and second booms to rotate
12 about a third axis to move the first and second booms and the watercraft support
13 apparatus between a collapsed configuration and an extended configuration that is
14 over center with respect to the collapsed configuration, the actuator configured to
15 fully extend and hold the first and second booms and the watercraft support
16 apparatus in the extended configuration.

1 22. The watercraft lifting apparatus of claim 21, wherein the third axis is offset from
2 the first axis and is parallel and offset away from the first end of the first boom and away
3 from the first axis.

1 23. The watercraft lifting apparatus of claim 22, wherein the first boom is joined to
2 the base at a first pivot point positioned between the first end thereof and a distal end of a
3 boom extension formed on the first boom to which the actuator is attached, the actuator
4 pivotally connected adjacent a distal end of the boom extension.